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HALE AND DORR, LLP
60 STATE STREET
BOSTON, MA 02109

| EXAMINER | |
|---|---|
| MAURO JR, THOMAS J | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/732,629 | TEREFENKO, HENRY | |
| | Examiner | Art Unit | |
| | Thomas J. Mauro Jr. | 2143 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-48 are pending and are presented for examination. A formal action on the merits of claims 1-48 follows.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-7, 11 and 37-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Feigenbaum (U.S. 6,339,785).

With respect to claim 1, Feigenbaum teaches a method of obtaining a data stream comprising:

requesting a plurality of sources, each of which contains a copy of the data stream, to send different respective segments of the data stream to a specified destination **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]**; and

dynamically adjusting the relative number of segments of the data stream that each of the sources should subsequently send **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – As downloading occurs, performance measurements are taken. If performance falls below a threshold level, new link with another server is made and that server must then be adjusted to send the remaining portion of the file]**.

With respect to claim 3, Feigenbaum further teaches receiving additional segments of the data stream from the sources after adjusting the number of segments to be sent from each source, wherein the additional segments represent a portion not previously received from the request **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – Portions, not transferred from one source, i.e. additional segments, are received once the source is switched to a different server, i.e. because of a failed server]**.

With respect to claim 4, Feigenbaum further teaches adjusting the relative number of segments based on prior throughput of respective connections with the sources **[Feigenbaum – Col. 3 lines 32-37 and Col. 4 lines 1-7 – If one server fails because of performance, link to additional server is made and the number of segments to be transferred from this source is altered, i.e. raised, to accommodate segments not transferred by the other, i.e. failed, server. Servers and transfer links are monitored and throughput is measured to adjust these values]**.

With respect to claim 5, Feigenbaum further teaches repeatedly adjusting the number of segments of the stream that each source should sent **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-6 – As can be seen in the figure, performance is continually, i.e. repeatedly, monitored until all data is transferred. If performance drops again, segments transfer for one server will increase as a result of the loss of one sever]**.

With respect to claim 6, Feigenbaum further teaches assembling the received segments to obtain substantially the entire data stream **[Feigenbaum -- Col. 2 lines 63-67 and Col. 3 lines 37-38 – Received portions are assembled to form the requested file]**.

With respect to claim 7, Feigenbaum further teaches wherein some segments are received over a high latency network **[Feigenbaum -- Col. 3 lines 61-67 – Switching of server sources occur because performance, i.e. latency, increases]**.

With respect to claim 11, this is a method claim similar to the method claimed in claim 6. It has similar limitations; therefore, claim 11 is rejected under the same rationale.

With respect to claim 37, Feigenbaum teaches an article comprising a computer-readable medium that stores computer-executable instructions **[Feigenbaum -- Col. 3 lines 4-7 – Executable software]** for causing a system to:

request a plurality of sources, each of which contains a copy of a data stream, to send different respective segments of the data stream **[Feigenbaum -- Figure 1, Col. 2 lines 43-67**

**and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]**; and

prior to receiving all the segments of the data stream, dynamically adjusting the relative number of segments of the data stream that each of the sources should subsequently send **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – As downloading occurs, performance measurements are taken. If performance falls below a threshold level, new link with another server is made and that server must then be adjusted to send the remaining portion of the file]**.

With respect to claims 38-40, these are article claims corresponding to the method claimed in claims 4-6. They have similar limitations; therefore, claims 38-40 are rejected under the same rationale.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2, 16-17, 22-26, 29-34, 44 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum (U.S. 6,339,785), as applied to claims 1, 16, 23, 30 and 44 above respectively, in view of Geagan, III et al. (U.S. 6,263,371).

Regarding claim 2, Feigenbaum teaches the invention substantially as claimed, as aforementioned in claim 1 above, but fails to teach the segments are received over different routes from each source.

Geagan, however, discloses a method for transferring data from multiple sources in which the streams are preferably routed over different paths within the network **[Geagan -- Col. 8 lines 53-54 and Col. 10 lines 46-48]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the routing of streams from multiple sources over different paths, as taught by Geagan into the invention of Feigenbaum, in order to provide a level of fault-tolerance and backup in the event that one link goes down. This will ensure that other servers will still be able to transfer because they are not dependent on the same path.

Regarding claim 16, Feigenbaum teaches the invention substantially as claimed, receiving requests to send respective segments of the data stream to a particular destination **[Feigenbaum -- Figure 2, Col. 2 lines 46-49 and Col. 3 lines 7-18 – Client establishes link with servers and specifies location of file it wishes to download]** and sending the segments of the stream **[Feigenbaum -- Figure 2, Col. 2 lines 60-67 and Col. 3 lines 25-32 – Different portions of the file are downloaded]**.

Feigenbaum fails to teach the sending the segments over different routes, i.e. from different locations.

Geagan, however, discloses a method for transferring data from multiple sources in which the streams are preferably routed over different paths within the network **[Geagan -- Col. 8 lines 53-**

**54 and Col. 10 lines 46-48]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the routing of streams from multiple sources over different paths, as taught by Geagan into the invention of Feigenbaum, in order to provide a level of fault-tolerance and backup in the event that one link goes down. This will ensure that other servers will still be able to transfer because they are not dependent on the same path.

Regarding claim 17, Feigenbaum-Geagan teach the invention substantially as claimed, as aforementioned in claim 16 above, including dynamically adjusting the relative number of segments of the data stream sent **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – As downloading occurs, performance measurements are taken. If performance falls below a threshold level, new link with another server is made and that server must then be adjusted to send the remaining portion of the file]**.

Regarding claim 22, Feigenbaum-Geagan teach the invention substantially as claimed, as aforementioned in claim 16 above, including receiving the segments sent over the different network routes **[Geagan -- Col. 8 lines 53-54 and Col. 10 lines 46-48 – Streams, i.e. segments, are routed over different paths, i.e. routes]** and assembling the received segments to obtain substantially the entire data stream **[Feigenbaum -- Col. 2 lines 63-67 and Col. 3 lines 37-38 – Received portions are assembled to form the requested file]**.

Regarding claim 23, Feigenbaum teaches the invention substantially as claimed, a system for transferring a data stream comprising:

a plurality of sources each storing a copy of the data stream **[Feigenbaum -- Figure 1 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file]**;

wherein the module is configured to request each of the sources to send different respective segments of the data stream **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 – When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]** and, prior to receiving all segments of the data stream, to adjust dynamically the relative number of segments of the data stream that each of the sources should send **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – As downloading occurs, performance measurements are taken. If performance falls below a threshold level, new link with another server is made and that server must then be adjusted to send the remaining portion of the file]**. Feigenbaum fails to teach a device executing an application program and a module associated with the device configured to intercept a request for the data stream generated by the program. Geagan, however, discloses a proxy located between the client and the server which process information by executing a program to intercept data streams and forward them to the proper servers **[Geagan -- Col. 8 lines 26-46]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a program executing on a module, i.e. proxy, to intercept a request for a data stream, as taught by Geagan into the invention of Feigenbaum, in order to provide an intermediate point to prepare requests and data and to assure it's integrity before forwarding it to the client.

Regarding claims 24-26 and 29, these are system claims corresponding to the method claimed in claims 4-6 and 12. They have similar limitations; therefore, claims 24-26 and 29 are rejected under the same rationale.

Regarding claim 30, Feigenbaum teaches the invention substantially as claimed, a system for transferring a data stream comprising:

a destination device **[Feigenbaum -- Figure 1 item 10 and Col. 2 lines 63-65 – Client receives segments to form file]**;

a source of a data stream **[Feigenbaum -- Figure 1 items 12, 14 and 16, Col. 2 lines 49-60 and Col. 3 lines 16-23 – Duplicate copies of file is dispersed across multiple servers, upon which, each provides a portion of the file]**; and

requesting each of the servers to route different respective segments of the data stream to the destination device **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]** and, prior to receiving all segments of the data stream, dynamically adjusting the relative number of segments of the data stream that each of the servers should send **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – As downloading occurs, performance measurements are taken. If performance falls below a threshold level, new link with another server is made and that server must then be adjusted to send the remaining portion of the file]**.

Feigenbaum fails to teach a module associated with the destination device and configured to intercept a request for the data stream along with having the servers located along different routes to the destination device.

Geagan, however, discloses a method for transferring data from multiple sources in which the streams are preferably routed over different paths within the network **[Geagan -- Col. 8 lines 53-54 and Col. 10 lines 46-48]**.

Furthermore, Geagan discloses a proxy located between the client and the server which process information by executing a program to intercept data streams and forward them to the proper servers **[Geagan -- Col. 8 lines 26-46]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the routing of streams from multiple sources over different paths and the use of a program executing on a module, i.e. proxy, to intercept a request for a data stream, as taught by Geagan into the invention of Feigenbaum, in order to provide a level of fault-tolerance and backup in the event that one link goes down to ensure that other servers will still be able to transfer because they are not dependent on the same path and also to provide an intermediate point to prepare requests data and to assure it's integrity before forwarding it to the client.

Regarding claim 31, Feigenbaum-Geagan teach the invention substantially as claimed, as aforementioned in claim 30 above, wherein the servers are configured to route the request to the source **[Feigenbaum -- Col. 3 lines 28-32 – Servers download different portions of file to client]**, and wherein the source is configured to send the different segments over different routes,

i.e. paths **[Geagan -- Figure 2, Col. 8 lines 53-54 and Col. 10 lines 46-48 – Stream segments are routed over different paths within the network]**.

Regarding claims 32-34, these are system claims corresponding to the method claimed in claims 4-6. They have similar limitations; therefore, claims 32-34 are rejected under the same rationale.

Regarding claim 44, Feigenbaum teaches the invention substantially as claimed, an article comprising a computer-readable medium that stores computer-executable instructions for causing a system to:

send segments of a data stream to a particular destination **[Feigenbaum -- Figure 2, Col. 2 lines 60-67 and Col. 3 lines 25-32 – Different portions of the file are downloaded]** in response to requests for the segments **[Feigenbaum -- Figure 2, Col. 2 lines 46-49 and Col. 3 lines 7-18 – Client establishes link with servers and specifies location of file it wishes to download]**; and

dynamically adjusting the relative number of segments of the stream sent **[Feigenbaum -- Figure 4 and Col. 3 lines 63-67 – Col. 4 lines 1-7 – As downloading occurs, performance measurements are taken. If performance falls below a threshold level, new link with another server is made and that server must then be adjusted to send the remaining portion of the file]**.

Feigenbaum fails to teach the sending the segments over different routes, i.e. from different locations.

Geagan, however, discloses a method for transferring data from multiple sources in which the streams are preferably routed over different paths within the network **[Geagan -- Col. 8 lines 53-54 and Col. 10 lines 46-48]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the routing of streams from multiple sources over different paths, as taught by Geagan into the invention of Feigenbaum, in order to provide a level of fault-tolerance and backup in the event that one link goes down. This will ensure that other servers will still be able to transfer because they are not dependent on the same path.

Regarding claim 48, this is an article claim corresponding to the method claimed in claim 5. It has similar limitations; therefore, claim 48 is rejected under the same rationale.

6. Claims 8-10, 12-14 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum (U.S. 6,339,785) in view of Forecast et al. (U.S. 6,230,200).

Regarding claim 8, Feigenbaum teaches a method of obtaining a data stream comprising:

requesting a plurality of sources, each of which contains a copy of the data stream, to send different respective segments of the data stream; and

receiving the different respective segments of the data stream from the sources **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte**

**offset, of the file to the client]**.

Feigenbaum fails to teach sending a first pattern to the sources and receiving data based upon the first pattern and sending a modified pattern to the sources to receive different respective segments based upon the modified pattern.

Forecast, however, teaches a resource allocation system which provides a dynamic model, i.e. pattern, which is provided to each node, i.e. source, for allocation of resources **[Forecast -- Col. 61 lines 44-53 and Col. 63 lines 30-32]**. The model can be modified to further allocate or de-allocate resources to each node, thus producing new allocations, i.e. modified pattern, which would provide different resources **[Forecast -- Col. 65 lines 64-67 – Col. 66 lines 1-12 and lines 32-53]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dynamic model for resource allocating, de-allocating and balancing, as taught by Forecast into the system of Feigenbaum, in order to provide dynamic scheduling of resources through a dynamic model which provides allocations based upon actual levels at any given point in time.

Regarding claim 9, Feigenbaum-Forecast teach the invention substantially as claimed, as aforementioned in claim 8 above, including calculating the modified pattern based on prior throughputs of connections to the sources **[Feigenbaum -- Col. 4 lines 1-7 – If one drops below specified performance criteria, link to additional server is made and the number of segments to be transferred from this source is altered, i.e. raised, to accommodate segments not transferred by the other, i.e. failed, server]**.

Regarding claim 10, Feigenbaum-Forecast teach the invention substantially as claimed, as aforementioned in claim 9 above, including repeatedly modifying the pattern and receiving additional different respective segments of the data stream until substantially all segments of the data stream are received **[Forecast -- Figure 50 and Col. 66 lines 32-53 and Col. 67 lines 12-15 – Dynamic model is continually updated based upon actual resource levels at any given point in time, thereby allocating and de-allocating resources to deliver streams]**.

Regarding claim 12, Feigenbaum-Forecast teach the invention substantially as claimed, as aforementioned in claim 8 above, including wherein the respective segments of the data stream are non-overlapping **[Feigenbaum -- Col. 2 lines 60-67 and Col. 3 lines 28-32 – Each server sends a different segment to the client, i.e. server 1 byte offset 0-1000, server 2 byte offset 1000-2000 and server 3 byte offset 2000-3000, with no overlapping offsets, i.e. non-overlapping]**.

Regarding claim 13, Feigenbaum-Forecast teach the invention substantially as claimed, as aforementioned in claim 8 above, wherein sequential groups of elements correspond to sequential segments of the stream **[Feigenbaum -- Col. 2 lines 60-67 – Groups of elements, i.e. bytes correspond to the particular segment of the stream originating from a particular source]**.

Regarding claim 14, Feigenbaum-Forecast teach the invention substantially as claimed, as aforementioned in claim 13 above, wherein each segment comprises a data block **[Feigenbaum -- Col. 2 lines 60-67 – Each segment contains byte offsets, i.e. data blocks]**.

Regarding claim 41, Feigenbaum teaches the invention substantially as claimed, an article causing a system to:

send segments of a data stream from a particular source containing a copy of the data stream in response to a request and receiving the respective segments **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]**.

Feigenbaum fails to teach sending a first pattern to the sources and receiving data based upon the first pattern and sending a modified pattern to the sources to receive different respective segments based upon the modified pattern.

Forecast, however, teaches a resource allocation system which provides a dynamic model, i.e. pattern, which is provided to each node, i.e. source, for allocation of resources **[Forecast -- Col. 61 lines 44-53 and Col. 63 lines 30-32]**. The model can be modified to further allocate or de-allocate resources to each node, thus producing new allocations, i.e. modified pattern, which would provide different resources **[Forecast -- Col. 65 lines 64-67 – Col. 66 lines 1-12 and lines 32-53]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dynamic model for resource allocating, de-allocating and balancing, as taught

by Forecast into the system of Feigenbaum, in order to provide dynamic scheduling of resources through a dynamic model which provides allocations based upon actual levels at any given point in time.

7. Claims 15 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum (U.S. 6,339,785) and Forecast et al. (U.S. 6,230,200), as applied to claim 8 and 41 above respectively, in view of Satran et al. (U.S. 6,430,183).

Regarding claim 15, Feigenbaum-Forecast teach the invention substantially as claimed, as aforementioned in claim 8 above, including wherein the respective positions of the groups within the pattern **[Forecast -- Col. 61 lines 44-53 and Col. 63 lines 30-32]** indicate which streams each source will send **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]**.

Feigenbaum-Forecast fail to teach wherein the respective groups of elements identify respective particular ones of the sources.

Satran, however, teaches a data transmission system which the source identifier, located in the header of one of the packets in the group, is used to identify the stream source **[Satran -- Figure 2 and Col. 4 lines 1-7 and lines 17-22]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made

to incorporate the packet identification of data source, as taught by Satran into the invention of Feigenbaum-Forecast, in order to provide identification information of the source in case of a fault or failure in order to know which source has failed and what source not to route data to.

Regarding claim 42, this is an article claim corresponding to the method claimed in claim 15. It has similar limitations; therefore, claim 42 is rejected under the same rationale.

8. Claims 18, 21, 27, 35 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum (U.S. 6,339,785) and Geagan, III et al. (U.S. 6,263,371), as applied to claims 16, 23, 30 and 44 above respectively, in view of Forecast et al. (U.S. 6,230,200).

Regarding claim 18, Feigenbaum-Geagan teach the invention substantially as claimed, as aforementioned in claim 16 above, including identifying the particular segments **[Feigenbaum -- Figure 2, Col. 2 lines 46-49 and Col. 3 lines 7-18 – Client establishes link with servers and specifies location of file it wishes to download]** to be sent over the different routes **[Geagan -- Col. 8 lines 53-54 and Col. 10 lines 46-48 – Streams are routed over different paths within the network]**.

Feigenbaum-Geagan fail to teach receiving a pattern which identifies the segments to be transferred.

Forecast, however, teaches a resource allocation system which provides a dynamic model, i.e. pattern, which is provided to each node, i.e. source, for allocation of resources **[Forecast -- Col. 61 lines 44-53 and Col. 63 lines 30-32]**. The model can be modified to further allocate or de-allocate resources to each node, thus producing new allocations, i.e. modified pattern, which would provide different resources **[Forecast -- Col. 65 lines 64-67 – Col. 66 lines 1-12 and lines 32-53]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dynamic model for resource allocating, de-allocating and balancing, as taught by Forecast into the system of Feigenbaum-Geagan, in order to provide dynamic scheduling of resources through a dynamic model which provides allocations based upon actual levels at any given point in time.

Regarding claim 21, this is a method claim similar to the method claimed in claim 5. It has similar limitations; therefore, claim 21 is rejected under the same rationale.

Regarding claim 27, Feigenbaum-Geagan teach the invention substantially as claimed, as aforementioned in claim 23 above, but fail to teach sending a first pattern to the sources to identify the segments that each source should send and further sending another pattern to adjust the relative number of segments of the data stream each source should send.

Forecast, however, teaches a resource allocation system which provides a dynamic model, i.e. pattern, which is provided to each node, i.e. source, for allocation of resources **[Forecast -- Col. 61 lines 44-53 and Col. 63 lines 30-32]**. The model can be modified to further allocate or de-

allocate resources to each node, thus producing new allocations, i.e. modified pattern, which would provide different resources from each source **[Forecast -- Col. 65 lines 64-67 – Col. 66 lines 1-12 and lines 32-53]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dynamic model for resource allocating, de-allocating and balancing, as taught by Forecast into the system of Feigenbaum-Geagan, in order to provide dynamic scheduling of resources through a dynamic model which provides allocations based upon actual levels at any given point in time.

Regarding claim 35, this is a system claim corresponding to the system claimed in claim 27. It has similar limitations; therefore, claim 35 is rejected under the same rationale.

Regarding claims 45 and 46, these are article claims corresponding to the method claimed in claim 18 and the system claimed in claim 27. They have similar limitations; therefore, claims 45 and 46 are rejected under the same rationale.

9. Claims 19-20, 28, 36 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum (U.S. 6,339,785), Geagan, III et al. (U.S. 6,263,371) and Forecast et al. (U.S. 6,230,200), as applied to claims 18, 27, 35 46 above respectively, in view of Satran et al. (U.S. 6,430,183).

Regarding claim 19, Feigenbaum-Geagan-Forecast teach the invention substantially as claimed, as aforementioned in claim 18 above, wherein the pattern **[Forecast -- Col. 61 lines 44-53 and Col. 63 lines 30-32]** includes groups, each group identifying a route **[Geagan -- Col. 8 lines 53-54 and Col. 10 lines 46-48 – Streams, i.e. segments, are routed over different paths, i.e. routes, which can be identified by the source address of the packet (Satran -- Figure 2 and Col. 4 lines 1-7 and lines 17-22)]** and wherein positions within the pattern correspond to a particular route identify which segments of the stream are to be sent along the particular route **[Feigenbaum -- Figure 1, Col. 2 lines 43-67 and Col. 3 lines 19-23 – Multiple servers have duplicate copies of the file. When requested, each server sends a specific segment, i.e. byte offset, of the file to the client]**.

Regarding claim 20, Feigenbaum-Forecast-Satran teach the invention substantially as claimed, as aforementioned in claim 42 above, including instructions for causing the system to determine whether individual segments of the stream should be sent from a particular source **[Feigenbaum -- Col. 3 lines 25-32 – Client instructions servers to download portions of the file, therefore, client sends instructions to servers regarding which portions to send]**. Feigenbaum-Forecast-Satran fails to teach wherein the individual segments are considered in a predetermined sequential order

Geagan, however, discloses that each segment contains a sequence number to identify the spot in the sequential order of the stream which it belongs **[Geagan -- Col. 10 lines 52-57 and Col. 11 lines 1-12]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made

to incorporate the sequence numbers to identify the predetermined sequential order of a stream, as taught by Geagan into the invention of Feigenbaum-Forecast-Satran, in order to provide a mechanism to seam the stream together as each section arrives and to further be able to fix errors if packet loss or error occurs.

Regarding claim 28, this is a system claim corresponding to the method claimed in claim 15. It has similar limitations; therefore, claim 28 is rejected under the same rationale.

Regarding claim 36, this is a system claim corresponding to the method claimed in claim 15. It has similar limitations; therefore, claim 36 is rejected under the same rationale.

Regarding claim 47, this is an article claim corresponding to the method claimed in claim 15. It has similar limitations; therefore, claim 47 is rejected under the same rationale.

10. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum (U.S. 6,339,785), Forecast et al. (U.S. 6,230,200) and Satran et al. (U.S. 6,430,183), as applied to claim 42 above, in view of Geagan, III et al. (U.S. 6,263,371).

Regarding claim 43, this is an article claim corresponding to the method claimed in claim 20. It has similar limitations; therefore, claim 43 is rejected under the same rationale.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mauro Jr. whose telephone number is 703-605-1234. The examiner can normally be reached on M-F 8:00a.m. - 4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 703-308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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TJM
April 16, 2004

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100